The Connection

A WELL DRILLING INDUSTRY NEWSLETTER

MISSOURI
DEPARTMENT OF NATURAL RESOURCES

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CAMPYLOBACTER

Campylobacter bacterium (pronounced camp-ee-low-back-ter) infection is one of the most common bacterial causes of diarrhea illness. Campylobacter causes 5 to 11 percent of all diarrheas in the United States, more than salmonella or shigella combined. While food is most often the method for the spread of this illness, contaminated water is usually the underlying source. According to the World Health Organization (WHO), Campylobacter infections have been on the rise for some time in developed countries around the world. In Missouri, the number of reported cases rose from 49 in 1980 to 614 in 1992.

Symptoms of a Campylobacter infection are fever, cramps and bloody diarrhea. These may develop within two to five days, or take as long as ten days to appear. As this bacterial organism excretes toxins within the small intestines, the mucous membrane becomes infected, leading to nausea, vomiting or headaches. These, too, may last from two to five days, or extending as long as ten days.

Most people who get a Campylobacter infection will recover completely, though in some rare cases long-term consequences can result. Some people may develop arthritis following a Campylobacter infection; while others may develop a rare disease that affects the nerves of the body beginning several weeks after diarrheal illness. This disease, called Guillain-Barre' syndrome, occurs when a person's immune system is "triggered" to attack the body's own nerves, and can lead to paralysis that lasts several weeks. According to the Center for Disease Control (CDC), an estimated one in every 1,000 reported Campylobacter infections leads to Guillain-Barre' syndrome. As many as 40 percent of all Guillain-Barre' cases in this country may be triggered by Campylobacteriosis.

Campylobacter transmission routes are poorly defined. In addition to humans, it is carried by a variety of animals. Cattle, pigs, chickens, birds, cats, dogs, hamsters and even turtles can harbor Campylobacter. Though cattle and poultry have been determined to be the most common reservoirs for Campylobacter species.

Why should this be a concern for the well drilling community? A large percentage of Missouri's domestic water wells are in rural areas, sometimes near large concentrations of poultry, cattle or hogs. Several of the outbreaks of Campylobacter infection in Missouri occurred at large poultry processing plants. The infected people came in direct contact with live or recently killed birds. Processed water from poultry plants, as well as runoff from any concentration of human, poultry, cattle or hog manure can also contain bacterial concentrations.

Many bacterial infections occur worldwide due to a combination of karst geology and septic influences (human and animal). Some have been known to be quite serious. For example, in 1996, an outbreak of Campylobacter from groundwater contaminated by a broken sewage pipe resulted in 2,400 illnesses in Denmark.

As more rural areas slowly become suburbanized, and more Concentrated Animal Feeding Operations (CAFOs) enter an area, the potential for a water borne infection such as those described above, increases. Knowledge of the area, surface features, drilling conditions and the ability to ensure a good annular seal becomes critical. It can literally save lives.

INSIDE:

STAKEHOLDER MEETING

The division is holding a stakeholder meeting on August 12, 2004 at the Joplin Public Library. The meeting will be held in the library's large conference room. The address of the library is 300 Main Street in Joplin. The meeting is to discuss changes to the rules relating to Special Area 2—Newton/Jasper County. An agenda will be sent to local area contractors the

continued next page ...

Stakeholder Meeting *continued*
first full week of July. The meeting will be held from 6:00 p.m. to 8:30 p.m.

If you need more information regarding this meeting please contact staff at (573)368-2171.

JASPER/NEWTON COUNTIES SPECIAL AREA NEW PROCEDURE FOR WELL SAMPLING WHERE ACCESS IS DENIED

Recently the Division implemented a change in its procedure to address cases in which contractors are denied access to collect the required water sample in Newton/Jasper counties. Following is the new procedure, which was adopted by the Well Installation Board at its May 17, 2004 meeting:

- Before drilling a well or entering into a contract to drill a well, contractors should notify new clients that water samples will be required. In addition, contractors are encouraged to execute a written access agreement for the collection of water samples.
- Contractors are required to collect, or attempt to collect, the required (initial) water sample from all newly constructed wells within 60 days.
- Contractors who are refused access for the initial water sample must notify WHP in writing, within 60 days, that they have made due diligence but have been refused access. Copies of letters, dates of phone calls, etc. must be submitted to document the attempts.
- Upon receiving notice from a contractor that access has been refused for an initial water sample, WHP staff will attempt to contact the well owner by phone to try and persuade the well owner to grant the contractor access. If the well owner refuses to give access to the contractor, he/she will be asked if they will grant WHP staff access. If the well owner refuses access to WHP staff, they should be advised that the AGO may seek access via a warrant.
- The matter should then be discussed with the AGO. Special circumstances should be weighed in determining whether or not to pursue a warrant. For instance, a well serving a day care center typically would require a warrant, whereas an irrigation well or stock watering well may not. Contaminant concentrations are a factor, also.
- Wells that have been sampled and analysis indicates contamination above MCLs and ACLs, may be re-tested. Although the contractor can do the re-testing, the ultimate responsibility for follow-up testing is with the well owner.
- Contractors who properly notify the division that they have been refused access for the required initial sample should <u>not</u> be issued an NOV. However, the well should not be certified until a clean sample is obtained.
- Contractors are not responsible for collecting follow-up water samples (and hence are not subject to NOVs) from wells that initially are above MCLs and ACLs, unless there is reason to believe the contamination is related to the well construction and not the aquifer. Well owners are responsible for follow-up sampling if the contamination is not related to well construction.

TEST HOLE VS. PILOT HOLE

In the recent past there has been confusion over the definition of test holes and pilot holes. Some contractors were labeling pilot holes as test holes, and did not have a permit to install test holes. The following is an explanation of the differences between pilot and test holes:

<u>Test hole permits</u>—both a test hole drilling permit (Chapter 6 of the Missouri Well Construction Rules) and a monitoring well installation contractor permit (Chapter 4) are valid for drilling test holes. Test holes are borings or wells used in the exploration of minerals or geologic data.

<u>Pilot holes</u>—the well drilling contractor permit (Chapter 3 of the Missouri Well Construction Rules) is valid for drilling pilot holes for water wells. A pilot hole is a hole drilled to assess water quality and quantity during well construction. A separate permit such as the test hole permit is not a requisite for pilot hole but is required for test holes.

We suggest that the well drilling contractor label as water well pilot holes any borings started for water well construction. Then a test hole permit would not be required. If the pilot hole is plugged, an abandonment report is due.

WELCOME NEW EMPLOYEE

Ruth Ann Williams began working for the Wellhead Protection Section on May 10, 2004, as an office support assistant. Her duties will include data entry, answering the telephone and back-up for the section secretary. She previously worked in the section as a temporary employee in 2002. Ruth Ann said she looks forward to working with everyone here and in the industry.

EDITOR'S NOTE

If you have any suggestions, ideas, or comments concerning this newsletter, please let us know.

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The Connection is published quarterly by the Department of Natural Resources Geological Survey and Resource Assessment Division

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WELL ADVISORIES AND POTENTIAL PROBLEMS WHEN NOT FOLLOWED

The Wellhead Protection Section issued a well advisory for the New Haven area approximately 1½ years ago. To be sure contractors were aware of the contamination issues in New Haven and other advisory areas, each issue of the Connection has included a summary of the advisories that have been issued to date. Each summary includes recommendations for the construction of new wells within the advisory area that would meet the requirement of 10 CSR 23-3.030 (2) to seal off formations that are likely to pose a threat to the aquifer or human health.

What happens when a contractor does not follow the advisory? This recently happened in the New Haven area. The contractor did not realize he was within the advisory area when he drilled the well. He contacted the Wellhead Protection Section after constructing the well seeking guidance on what he could do to make the well right. It was recommended that a liner be installed in the well and grouted into place, although it was made clear that this could not be guaranteed to protect the well from contamination.

The well was later tested for PCE (perchloroethylene, a degreasing solvent) at 6 parts per billion (ppb), just above the drinking water standard of 5 ppb. A dye trace was initiated between the casing and liner to see if the liner was leaking. The dye trace was negative; after monitoring the well for four weeks, none of the injected dye came back in the water supply. Available evidence suggested that the contractor was able to meet the requirement of 10 CSR 23-3.030 (2), Standards for Construction of Wells.

Further investigation has led to the possibility that a contaminated nearby well may have contributed to the contamination in this well. To verify this and the validity of the current advisory in the New Haven area, the responsible party for the site has agreed to do a well study to further define where the contamination is coming from. The advisory may be modified in the future based on the results of the upcoming study.

In the above-described situation, available evidence suggested that the contractor was able to meet the requirements of the regulation. What would have happened if failure to follow the advisory resulted in the spreading of contamination? Mark Doolan, an EPA staff person involved with Superfund sites in Jasper County, had indicated in public meetings held in the Newton/Jasper county area that contractors could be found liable if their drilling contributed to the spread of contamination under the Superfund law. Contractors would be considered parties responsible for spreading known contamination and could be held responsible for costs associated with cleanup. Additionally, any well deemed to be a threat to the aquifer could be required to be plugged under the Water Well Driller's Act.

Well advisories are issued for the benefit of the drilling community as well as the public. They are intended to provide guidance on how to construct a well at a known contamination site and allow for the greatest possibility of constructing a contaminant free well. They are also intended to prevent the spreading of contamination via the methods of well construction, such as installing a casing that is too shallow or not grouting an adequate length of the annular space. Failure to follow a well advisory could potentially result in severe economic loss to the contractor through legal actions of EPA, MDNR, and your customer. Staff will be glad to assist contractors with information as necessary.

CURRENT WELL ADVISORIES

The following well drilling advisories are in effect for the State of Missouri:

Advisory #1:

Site Name: New Haven (Franklin County). Also known as the Riverfront Superfund Site.

Contaminants of concern: Tetrachloroethene (PCE) and its degradation products.

Specific location and well construction requirements:

To assure that new wells case out known contamination, all new wells drilled in the area should be constructed in accordance with the following standards:

Sec 36, Town 45, Range 3W:

Consult the division for construction specifications. Much of this area is currently served by public drinking water.

Sec 2, N ½ Sec 11, SW ¼ Sec 1 and NW ¼ Sec 12, Town 44, Range 3W:

Water Wells:

Recommended Casing: 200 feet
Recommended Grouting: Full-length
Recommended Borehole Size: 10 inch

Heatpump Wells:

Recommended not to be constructed in area until plume is further delineated.
Construction using alternating plugs and fill has potential to spread contamination.
Contractors and homeowners could assume liability if contamination is spread.

Additional Information: http://missouri.usgs.gov/epa/nh/welladvisory/advisory.htm

Contact: Evan Kifer at (573) 368-2170 or Candice McGhee, MDNR Superfund, (573) 751-1738.

Advisory #2:

Site Name: Hematite (Jefferson County).

Contaminants of concern: Trichloroethylene (TCE) and dichloroethylene (DCE)

Specific location and well construction requirements:

continued next page...

Current Well Advisories *continued ...*

Trichloroethylene (TCE) and dichloroethylene (DCE) have been detected in the groundwater to a known depth of 125 feet and possibly to a depth of 325 feet. State Highway P, Rice Street, Lee Road, Jo Ann Drive, and an imaginary line roughly half a mile west of the National Guard Armory (located near the Highway A and P intersection) encircle the possible contamination area. The groundwater advisory area is within portions of the south half of Section 9, a north portion of Section 16, and a west portion of Section 10, Township 40 North, Range 5 East.

Well drilling is currently not recommended within this area until the full extent of the TCE and DCE plume is determined.

Contact: Evan Kifer at (573) 368-2170 or Candice McGhee, MDNR Superfund, (573) 751-1738.

CALL BEFORE YOU DRILL (1-800-DIG-RITE)

The Missouri One Call System (MOCS) was established to protect underground facilities and assist excavators and utilities in complying with Missouri law (RSMo 319.015 to 319.050) and OSHA rules (1926.651) in regard to identifying underground utility location before excavation is started. Excavation is any operation in which earth, rock or other material in or on the ground is moved, removed or otherwise displaced by mean of any tools or equipment and includes drilling and well drilling, auguring, boring, and driving. This regulation applies to everyone, except for residential and agricultural property owners or renters personally excavating on their own property (although due diligence is still required for the property owner/renter).

Liability for repair of underground utilities and administrative penalties may apply to any excavator who does not give notice to MOCS and obtain information concerning the possible location of underground utilities. The notice of intent to excavate can be submitted to the notification center by toll-free telephone number operated on a 24-hour per day, seven days per week basis. MOCS request that calls be made at least two working days before drilling starts.

The notice of intent to excavate includes the items listed on the Missouri One Call System location request forms for telephone or fax contact. Copies of the request forms and other information about MOCS are available on the Internet at www.mo1call.org.

ST. LOUIS AREA AIR PERMIT REQUIREMENTS

The Department of Natural Resources' Air and Land Protection Division, Air Pollution Program require excavations to be conducted under an Air Pollution Permit - Stage II Gasoline Vapor Recovery Construction Permit (10 CSR 10-5.220). The St. Louis Metropolitan Area comprises St. Louis, St. Charles, Jefferson, and Franklin Counties and the City of St. Louis. This regulation applies to all well drilling which requires excavation of concrete or asphalt surfaces before initiation of the drilling process at a new or existing facility undergoing vapor recovery.

Recently one of our contractors and the facility owner received $2,000 administrative penalties each for constructing a monitoring well at a service station in the Metro Area. The site had sustained a gasoline release and was undergoing remediation. The area of monitoring well construction was paved and the pavement was cored to gain access for well drilling. Wellhead was informed by the contractor of his predicament and we responded. Personnel at the Air Pollution Program decided to suspend the penalty fee pending no further violations in the next two (2) years since the contractors were not aware of this requirement.

Information about Metro Area vapor recovery permits may be obtained from the St. Louis Regional Office at (314) 416-2960. Ask for Bill Ruppel or one of his staff in the Vapor Recovery Unit.

NEW GPS RULE

At the August Well Installation Board meeting, the Department of Natural Resources' Geological Survey and Resource Assessment Division will seek approval for initiating a new rule that requires utilization of the Global Positioning System (GPS). GPS reading will be required for all new well, test hole, heat pump and pump construction after the effective date of the rule. All well and pump report forms will be modified for this requirement. In response to our contractors' comments, readings will be in degrees, minutes and seconds. The proposed rule is:

TITLE 10 NATURAL RESOURCES
Division 23—Division of Geology and Land Survey
Chapter 3—Well Construction Code

10 CSR 23-3.060 Certification and Registration Reports

PURPOSE: This rule sets required standards for certification and registration report form submittal.

(4) The certification report form and the registration report form submitted for well construction, well reconstruction, new pump installation, monitoring well construction (see 10 CSR 23-4), heat pump well construction (see 10 CSR 23-5), and test hole construction (see 10 CSR 23-6) shall include the geographic location of the well or test hole determined by a Global Positioning System (GPS), wide area augmentation system (WAAS) capable, handheld receiver. The format shall

continued next page...

***TITLE 10** continued ...*
be in degrees, minutes and seconds for latitude and longitude to 1 place after the seconds decimal point: i.e., latitude 38° 59' 59.9"N,

longitude 94° 01' 01.0"W. The GPS receiver shall be set to the North American Datum 1983 (NAD83) geodetic datum.

*AUTHORITY: sections 256.606, 256.614,256.623 and 256.626, RSMo Supp. 1991. *Original rule filed April 2, 1987, effective July 27, 1987. emergency rescission and emergency rule filed Nov. 16, 1993, effective Dec. 11, 1993, expired April 9, 1994. Rescinded and readopted: Filed Aug. 17,1993, effective March 10, 1994. *Original authority: 256.606, RSMo 1991 and 256.614,256.623 and 256.626, RSMo 1985, amended 1991.*

Upon review and approval by the Board, the full review and public comment process will begin. The rule is expected to be effective in 18 to 24 months, assuming approval by all parties and authorities. GPS units that satisfy the rule requirements usually cost between one-hundred to two-hundred dollars and are widely available from many manufacturers at local retail and discount outlets.

PUBLIC WELL CONSTRUCTION INFORMATION

Three separate DNR programs are involved in public well construction, either in a regulatory or advisory role. Although the process generally works fine, occasionally misunderstandings occur, not only between the contractors and regulatory agencies, but also between the separate agencies. The Water Protection and Soil Conservation Division's Public Drinking Water Branch (PDWB) regulates water supply and water well construction specifications for any wells that supply drinking water to 25 or more people, 60 or more days of the year. The Geological Survey and Resource Assessment Division's Water Resources Program (WRP) assesses borehole cuttings and sets casing points for public wells, while the Wellhead Protection Section (Wellhead) of the Geological Survey Program (GSP) reviews reported well construction and its ability to meet or surpass well construction regulations.

Difficulties occur when:

1. Domestic or multifamily wells are constructed at locations such as churches that have a congregation of more than 25 people, convenience stores, restaurants, and motels where a noncommunity transient well is necessary. The wells, therefore, do not have a casing point or notification to PDWB.
2. Domestic or multifamily wells are constructed at locations such as nursing homes, condos, mobile home parks, subdivisions and large apartment complexes that routinely house more than 25 people for 60 days.
3. Public wells are not constructed to PDWB design requirements, and in many cases can be approved by Wellhead for meeting minimum (domestic) well construction standards when reporting does not indicate a public well is needed.

In order to stop some confusion, the following suggestions are presented:

1. With questions whether a site requires a domestic or multifamily well, contact Wellhead at (573) 368-2165.
2. With questions whether a site requires a public well or private well, contact the DNR regional office in the region of well construction.

All public wells, except for non-community transient wells (NCT well), require PDWB approvals before the well construction starts and before water is dispensed. Although NCT wells can be constructed after obtaining a casing point letter, requests for casing point letters must now start through the regional offices and not at WRP or Wellhead.

Wellhead has initiated higher standards of review of public and multifamily wells to assure that wells that do not meet PDWB construction and utilization requirements are not improperly certified.

LAKE AREA CASING POINT REQUIREMENTS

Recently, a question was raised about setback distance requirements for lake-area wells. The caller thought that all wells within 1 mile of a lake needed the well cased to a depth 50 feet deeper than the bottom of the lake. Please note that the casing point requirement pertains to wells within a ¼ mile distance of the principle lake areas.

The use of a liner to meet the casing depth requirement instead of full-length surface casing has also been called into question. Wellhead prefers the use of 6" diameter surface casing in most cases. However, in cases in which the casing can not be installed to the required depth, then a variance to use liner may be in order. Currently, Special Area 2 regulations specify full-size casing requirements to the casing point.

GRAVITY GROUT INSTALLATION

Gravity grouting by pouring grout from ground surface into the open borehole is limited to the depths listed on the Gravity Grouting Table on page 3-8 of the Well Construction Rules. Depth of pour depends upon available annular space.

Please note:

1. Cement or bentonite slurry may never be poured through standing water without the use of a tremie pipe.
2. The grout must be placed at the bottom 30 feet of the casing for most domestic and multifamily wells, and
3. The casing must be set 30 feet into competent bedrock for domestic and multifamily bedrock wells.

Otherwise, a variance is needed for those extremely difficult wells.

NOTIFICATION OF PUBLIC WATER SERVICE TO PRIVATE WELL OWNERS.

Public water suppliers are obligated by statute (RSMo 256.628) and rule (10 CRS 23-3.025) to notify the division concerning private domestic wells at their client's residence. A new simplified report is available for public water districts to provide Wellhead with information about well(s) on property of new public water hookups. Copies of the form may be obtained by calling Wellhead at (573) 368-2165. The forms provide for identification of the well owners, well location information and well abandonment plans. The report also requires identification information from the public water supplier. The well owner has the option to keep the well in use for purposes other than drinking water or he has the obligation to abandon the well within 90 days of public water hookup. The form must be submitted within 60 days of hookup by either the public water supplier (preferred method) or the well owner. Note that the obligation to submit the notification is the responsibility of the public water supplier.

With the help of the Missouri Rural Water Association, the new report form has been well received by the public water districts. Compliance with the requirements appears to have increased and be more widespread.

UNRESOLVED NOVs

At the May 17, 2004 Well Installation Board meeting, Wellhead staff requested that well owners be notified if their contractor has an outstanding NOV on their well, especially if this has resulted in the owner's well not receiving a certification number. The Board approved the section's request to mail notification of unresolved NOVs to the contractor's client. NOVs are required to be resolved within the timeline presented in the NOV or to be in the process of being resolved. Wellhead will send the client notification of the unresolved NOVs in cases in which:

1. the contractor has not contacted the section to initiate resolution of the NOV;
2. the contractor has failed to carry out his obligation for resolution;
3. the contractor has lapsed his timeline for resolution.

WELLHEAD PROTECTION SECTION PHONE NUMBER LISTING (573) 368-2165

BOB ARCHER

Section Chief (573) 368-2165 - Information on legislation, enforcement and monitoring well construction, Newton and Jasper county wells.

EVAN KIFER

Unit Chief - Hydrogeologic Investigation Unit (573) 368-2170 - Field investigation, variances, casing depths, shallow injection well (Class V) construction standards, and oil and gas well permitting.

SHERI FRY

Unit Chief - Administrative Unit (573) 368-2115 - Technical assistance in the area of regulations, well certification, and enforcement procedures.

SHARON BEISTEL

(573)368-2168 - Water well construction information and certification, heatpump registration, abandonment registration, location of wells, and map reading information.

VACANT - *Sheri Fry will be taking these calls until position is filled.*

(573) 368-2115 Permitting and testing information. Provides technical assistance in the area of regulations, well certification and enforcement procedures. Oil & Gas Council Secretary.

JEANNIE HOYLE

(573) 368-2450 - Well Installation Board Secretary and information regarding Notices of Violation (NOVs).

PAUL MEYER

(573) 368-2159 - Water well reconstruction, well plugging, and field investigation.

KATHRYN (KAY) HARRIS

(573) 368-2165 - Section Secretary - General information, requests for forms, county maps, publications, invoicing and fee questions.

MATT PARKER

(573) 368-2195 - Oil and gas well permitting, oil and gas production statistics, shallow injection well (Class V) construction standards.

JOE SCHLUETER

(573) 368-2316 - Well plugging and field investigation.

CATHY SMITH

(573) 368-2167 - Casing depth information, variances, field investigation, and certification of monitoring wells.

PEGGY WENDT

(573) 368-2318 - Correspondence Clerk, information regarding pump information records submitted, and drought assistance well certification letters.

RUTH ANN WILLIAMS

(573) 368-2375 - General information, requests for forms, county maps, and publications

GARY ROLLINS

(573) 368-2196 - Confined animal feeding operation wells, casing depth information, variances, field investigation, and certification of monitoring wells.

WELCOME

The following individuals are now part of the DNR-permitted contractor community:

AAA Drilling & Pump\Russell Asmus Jr.
Clark Drilling\Dustin Clark
D & D/ Doug Reavis Pump Service\ James Aaron Reavis
Dobkins & Sons Well Drilling\ Lawrence Dobkins
Drill it Well d/b/a Messenger\ Eric Chase Belew
Environmental Operations \ Andrew Horrell
Ground Source Systems\Rocky Johnson
Haley & Aldrich\Daniel Adams
Hogan Construction \ Terry DeShurley
Jacksons Pump Service\Dale Jackson
Kennedy/Jenks Consultants\ Joshua Sales
Leggette, Brashears & Graham\ Eric Mosley
Mac's Pump Sales & Service\ Michael MacAffree
MO Department of Natural Resources \ Keith Knelle
Peter's Heating & Air\Garrett Peters
Raimonde Drilling \ Burke Marchello, Derek Stefansson
Riverfront Environmental\ Paul Teets
RMT\John Leffew
Russ's Pump Service\Reggie Hout
SCI Engineering\Angie Weber
Secor International \ Jessica Dehart
Terranext\Levi Short
The Water Boys\Walter Bolin
Tompkins Well & Pump\David Tompkins

FAREWELL

The people addressed below are no longer permitted to operate as contractors according to the Water Well Drillers Act and Well Construction Regulations:

Aqua Wells\Brian Brunk
Associated Environmental\Jeremy Warner
ATC Associates\Jason Becks
Boessen Underground\Randy Helmig
Brunner Heating & Air\Gary Ledbetter
Cameron-Cole LLC\Jeffrey Nutall
Chatman & Associates\Kevin Barnes, Jeremy Davis
CH2M Hill\Anne Bartin
Clariant Life Science\Nancy Luxton
Daniels\Larry Daniels
Davis Environmental Services\ Larry Nottingham
Dellinger Pump Service\Michael Dellinger
Dennis Markham Pump\Dennis Markham
Dixie Well Drilling\Kenneth Varner
Don Fluery & Associates\Don Fluery
Earth Sciences\Jospeh Ozog Jr.
Effluent Management Systems\ Dennis Stack
Environmental Foundation & Drilling\Matthew Hood
GEI Consultants\Rachelle Noble
Geller\Richard Geller
Geosystems Engineering\Mark Babb
Geotechnical Construction\ Marion Skouby
Goodman's Heating & Air\Don Goodman
Grosch Irrigation\Charles Wilcox
Ground Source Systems\Victor Whitaker, Daniel Meyer, Clark Youngblood
Grundy Electric Coop \ Randy Kinnison
Guy Johnston Furnace\Reginald Johnston
Hawkins Petroleum \ Walter Hawkins
Herschell Walles Pump\ Albert Powell
Jacques Whitford\Jack Huntress
Kaw Valley Engineering\ Jason Town
Ken Wilson Co\Ken Wilson
Kennedy/Jenks Consultants\ Greg Gerike
Kerr McGee\Michael Parcell
Kiefer\Robyn Kiefer
Lefty's Pump & Drilling\ Dustin Terrey
Madison Drilling\Clinton Madison
Messenger Well Drilling\Jeff Messenger
Mid-America Drilling\Michael Crimaldi
Mid-America Environmental\ Adam Vogt
Midway Pump Service\Robert Moad Jr.
Midwest Geothermal\Brian Otto
Midwest Hydro Drillling\Kieth Strosnider
Northway Well & Pump\Kevin Northway
O'Brien & Gere Engineers\Joseph Beffa
Palmerton & Parrish \ Fred Palmerton
Pottersville Pump\Tim Massey
Ralls CO Electric CO-OP\Daniel Strode
Reed Well Drilling / Cabool Pump\Billy Reed
Rewerts Well Drilling\Justin Rewerts
Rhodes Drilling\Dennis Long Jr.
Rice Pump Service\Reggie Rice
Ridge Runner Companies LLC\ Brad Ives
Roberts Environmental\Brian Mudd
Robinson Mechanical\Wayne Winkler, Paul Findlay
Robinson Well Drilling\Jason Bey
Rons Dirtwork\Ronald Hanger
Shaw Environmental\Kenneth Toney
SLA Environmental\Michael Sewell
St. Louis Air Mechanical Contractors \ Mike Hooper
Terracon\John Rockhold
Vernon White Heating & Cooling\ Vernon White
Victor Furnace\Albert Carter
West Pump Co\W. David West

CONDOLENCES

The Wellhead Protection Section staff would like to offer our condolences to the family and friends of Darren Schroepfer over his recent untimely passing. Mr. Schroepfer was a permitted well, pump and heat pump installation contractor with Schroepfer Well Drilling located in Franklin County. He first became permitted in 1986 and was recently a member of the Governor's Results Initiative Workgroup dealing with the process of well certification. His advice was very beneficial and his assistance greatly appreciated. Darren will always be remembered for his professionalism in the well drilling industry and his outstanding efforts in helping to protect Missouri's groundwater.

WELL INSTALLATION BOARD MEETING DATES

The next meeting of the Well Installation Board has been tentatively scheduled for August 13, 2004 at the Missouri Southern State University, Billingsly Student Center, Room 314, Joplin Missouri. Open Session will begin at 10:00 a.m.

The November meeting is tentatively set for November 8, 2004 at the Phelps County Courthouse in Rolla. Open session will begin at 10:00 a.m.

Integrity and excellence in all we do

Please Circulate!

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